

Claims:

1. A polyvinyl alcohol-based film, comprising:
fluorine on a surface of the film.
2. A polyvinyl alcohol-based film as defined in claim 1, wherein the fluorine content is less than about 14 atomic % concentration.
3. A polyvinyl alcohol-based film as defined in claim 2, wherein the fluorine is bonded as C—F species on the surface of the film.
4. A polyvinyl alcohol-based film as defined in claim 3, wherein the C—F species are bonded adjacent to non-fluorinated species.
5. A polyvinyl alcohol-based film as defined in claim 4, wherein the oxygen-to-carbon ratio on the surface of the film is greater than approximately 0.5:1.
6. A polyvinyl alcohol-based film as defined in claim 5, wherein the oxygen-to-carbon ratio on the surface of the film is not greater than approximately 1:1.
7. A polyvinyl alcohol-based film as defined in claim 6, wherein the film comprises a polarizer.
8. A polyvinyl alcohol-based film as defined in claim 4, wherein the film comprises a polarizer.
9. A polyvinyl alcohol-based film as defined in claim 1, wherein the oxygen-to-carbon ratio on the surface of the film is greater than approximately 0.5:1.
10. A polyvinyl alcohol-based film as defined in claim 9, wherein the oxygen-to-carbon ratio on the surface of the film is not greater than approximately 1:1.
11. A polyvinyl alcohol-based film as defined in claim 10, wherein the film comprises a polarizer.
12. A polyvinyl alcohol-based film as defined in claim 1, wherein the film comprises a polarizer.

13. A method for treating a surface of a polyvinyl alcohol-based film, comprising:

exposing a polyvinyl alcohol-based film to an indirect, reduced-pressure plasma, comprising fluorine-containing gas.

14. A method for treating a surface of a polyvinyl alcohol-based film as defined in claim 13, wherein the fluorine-containing gas is CF₄.

15. A method for treating a surface of a polyvinyl alcohol-based film as defined in claim 13, wherein the plasma further comprises an oxygen-containing gas.

16. A method for treating a surface of a polyvinyl alcohol-based film as defined in claim 15, wherein the plasma further comprises an inert gas.

17. A method for treating a surface of a polyvinyl alcohol-based film as defined in claim 16, wherein the inert gas is argon.

18. A method for treating a surface of a polyvinyl alcohol-based film as defined in claim 15, wherein the film comprises a polarizer.

19. A method for treating a surface of a polyvinyl alcohol-based film as defined in claim 13, wherein the film comprises a polarizer.

20. A method for treating a surface of a polyvinyl alcohol-based film, comprising:

placing the film in contact with an rf electrode, and
exposing the film to an indirect, reduced-pressure rf plasma.

21. A method for treating a surface of a polyvinyl alcohol-based film as defined in claim 20, wherein the plasma comprises fluorine-containing gas.

22. A method for treating a surface of a polyvinyl alcohol-based film as defined in claim 21, wherein the plasma further comprises oxygen-containing gas.

23. A method for treating a surface of a polyvinyl alcohol-based film as defined in claim 22, wherein the film comprises a polarizer.

24. A method for treating a surface of a polyvinyl alcohol-based film as defined in claim 20, wherein placing the film comprises mounting the film in an electrically conductive rack.

25. A method for treating a surface of a polyvinyl alcohol-based film as defined in claim 24, wherein the rack comprises non-rounded edges.

26. A method for treating a surface of a polyvinyl alcohol-based film as defined in claim 25, wherein the film comprises a polarizer.

27. A method for treating a surface of a polyvinyl alcohol-based film as defined in claim 20, wherein the film comprises a polarizer.